



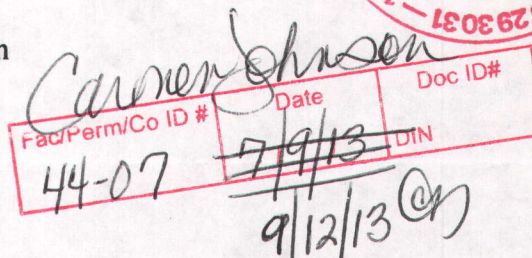
STEFFEN ROBERTSON & KIRSTEN (NC), INC.
Consulting Engineers, Geologists & Scientists

August 5, 1997

Mr. Bobby Lutfy, Hydrogeologist
Solid Waste Section
Division of Waste Management
NCDEHNR
P.O. Box 27687
Raleigh, N.C. 27611-7687



Re: White Oak Landfill Lateral Expansion
Permit # 44-07
Haywood County



Dear Mr. Lutfy:

Thank you for meeting with us last Thursday concerning the referenced project. I have reviewed the existing data available that would be used to satisfy paragraph (b) of Rule .1623 for the referenced facility. The data we would use is as follows:

1. A hydrogeologic report was prepared by Law Engineering which included four rock cores. Two of these rock cores are in the vicinity of the lateral expansion and included fracture observations, rock descriptions, RQD and recovery data. Based on review of local geology, the rock data information can be extrapolated to the area of the two acre cell within the realm of good geologic investigative practice.
2. An extensive report was prepared by Dr. Robert Hatcher specifically for the landfill characterization. His study included observations on the local geology including bedrock.
3. Froehling and Robertson, Inc. did a subsurface study that included three rock cores and nineteen subsurface bore holes. These were all located in the White Oak study area.
4. The existing monitoring well network has already been demonstrated to adequately monitor a potential release from the proposed expansion. All hydrogeologic data from the existing network and all past stratigraphic bore holes can be used to meet stratigraphic and hydrogeology requirements. This includes three separate nested pairs (shallow & deep) of monitoring wells that can give us vertical hydraulic head relationships, including four years of groundwater monitoring results for these nested wells.
5. An existing boring (AT-2) was located within the proposed lateral expansion. It reached a total depth of 85 feet without encountering rock.

Mr. Bobby Lutfy

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6. Four years of groundwater monitoring data is available for review, which will add significant insight into the hydraulic characteristics (seasonal water table fluctuations, etc.).

The proposed site will have a substantial separation between groundwater of approximately 35 feet and rock of greater than 50 feet. Existing rock core data and auger refusal data will give us sufficient data to prepare a top of bedrock contour map. The AT-2 control point will verify that the bedrock contour in that area is at least as deep as 85 feet bgs, and this can be compared to extrapolated bedrock data from existing rock cores..

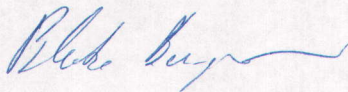
In light of all of the available data described above, we will be able to characterize bedrock and its influence on the landfill performance. The existing data includes numerous core holes in the area and the field report prepared by Dr. Hatcher that includes his analysis of rock types, jointing, fracturing and faulting.

We believe that existing data is adequate to satisfy Rule.1623 (b). We are prepared to proceed with the preparation of a "Design Hydrogeologic Report" based on the information outlined above upon your approval.

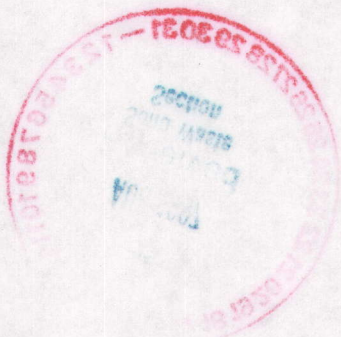
Thank you for your review of our data and I look forward to hearing from you soon. Please call if you have questions.

Sincerely,

STEFFEN ROBERTSON AND KIRSTEN (N.C.), INC.



Blake Burgess, P.G.
Senior Hydrogeologist





STEFFEN, ROBERTSON AND KIRSTEN
Consulting Engineers and Scientists

1941 Decker Boulevard
Columbia, South Carolina
USA 29206
E-mail: srkcol19@idt.net
URL: <http://www.srk.com/>
Tel: (803) 790-0602
Fax: (803) 790-0699

FAX TRANSMITTAL FORM

TO: *Bobby Luffy*
ATTENTION:

Page 1 of (including this page)

FAX NUMBER: *919-715-3605*

DATE: August 15, 1997

FROM: *Blake Bursess*

PROJECT NUMBER:

SUBJECT:

Hard copy to be mailed: Yes ☒ No ☐

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Consulting Engineers and Scientists

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Solid Waste Section
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P.O. Box 27687
Raleigh, N.C. 27611-7687

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Haywood County

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4. The existing monitoring well network has already been demonstrated to adequately monitor groundwater for a potential release from the proposed expansion. All hydrogeologic data from the existing network and all past stratigraphic bore holes can be used to meet stratigraphic and hydrogeology requirements. This includes three separate nested pairs (shallow & deep) of monitoring wells that can give us vertical hydraulic head relationships, including four years of groundwater monitoring results for these nested wells.
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Steffen Robertson and Kirsten (U.S.), Inc.
1941 Decker Boulevard
Columbia, South Carolina 29206, U.S.A.

Tel. (803) 790-0602 Facsimile (803) 790-0699

Other offices in: U.S.A., Canada, United Kingdom, Africa, South America and Australia

STEFFEN ROBERTSON AND KIRSTEN

Mr. Bobby Lutfy
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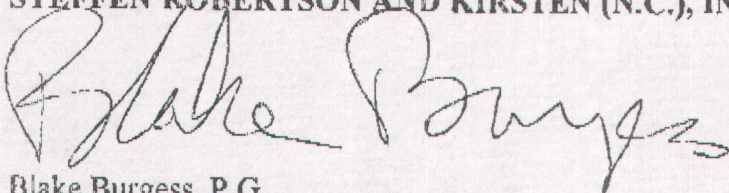
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